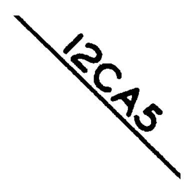




12CA5

BEAM POWER TUBE

MINIATURE TYPE

Intended for use in equipment having series heater-string arrangement

GENERAL DATA

Electrical:

Heater, for Unipotential Cathode:

Voltage	12.6	ac or dc volts
Current	0.6	amp
Warm-up time (Average)	11	sec

For definition of heater warm-up time and method of determining it, see sheet HEATER WARM-UP TIME MEASUREMENT at front of this Section.

Direct Interelectrode Capacitances (Approx.):°

Grid No.1 to plate	0.5	μμf
Grid No.1 to cathode & grid No.3, grid No.2, and heater	15	μμf
Plate to cathode & grid No.3, grid No.2, and heater	9	μμf

Mechanical:

Mounting Position	Any
Maximum Overall Length	2-5/8"
Maximum Seated Length	2-3/8"
Length, Base Seat to Bulb Top (Excluding tip)	2" ± 3/32"
Maximum Diameter	3/4"
Bulb	T-5-1/2
Base	Small-Button Miniature 7-Pin (JETEC No.E7-1)
Basing Designation for BOTTOM VIEW	7CV

Pin 1 - Cathode, Grid No.3
Pin 2 - Grid No.1
Pin 3 - Heater
Pin 4 - Heater
Pin 5 - Grid No.1
Pin 6 - Grid No.2
Pin 7 - Plate

AMPLIFIER - Class A_1

Maximum Ratings, *Design-Center Values*:

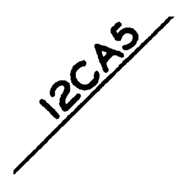
PLATE VOLTAGE	130 max.	volts
GRID-No.2 (SCREEN) VOLTAGE	130 max.	volts
GRID-No.1 (CONTROL-GRID) VOLTAGE:		
Positive bias value	0 max.	volts
PLATE DISSIPATION	5 max.	watts
GRID-No.2 INPUT	1.4 max.	watts
PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode	200 max.	volts
Heater positive with respect to cathode	200▲ max.	volts
BULB TEMPERATURE (At hottest point on bulb surface)	180 max.	°C

° Without external shield.

▲ The dc component must not exceed 100 volts.

MAR. 1, 1955 — TENTATIVE DATA

TUBE DIVISION
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY





12CA5

BEAM POWER TUBE

Typical Operation and Characteristics:

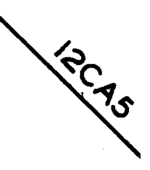
Plate Voltage	110	125	volts
Grid-No.2 Voltage	110	125	volts
Grid-No.1 Voltage	-4	-4.5	volts
Peak AF Grid-No.1 Voltage	4	4.5	volts
Zero-Signal Plate Current	32	37	ma
Max.-Signal Plate Current	31	36	ma
Zero-Signal Grid-No.2 Current	3.5	4	ma
Max.-Signal Grid-No.2 Current	7.5	11	ma
Plate Resistance (Approx.)	16000	15000	ohms
Transconductance	8100	9200	μmhos
Load Resistance	3500	4500	ohms
Total Harmonic Distortion	5	6	%
Max.-Signal Power Output	1.1	1.5	watts

Maximum Circuit Values:

Grid-No.1-Circuit Resistance:
- For fixed-bias operation . . . . 0.1 max. megohm
- For cathode-bias operation . . . . 0.5 max. megohm

MAR. 1, 1955 TENTATIVE DATA





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AVERAGE PLATE CHARACTERISTICS

Ef=12.6 VOLTS GRID-№2 VOLTS=125

Ec1=0, -1.0, -2.0, -3.0, -4.0, -5.0, -6.0, -7.0, -8.0 (I_b)

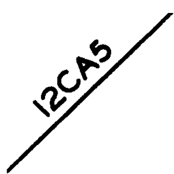
Ec1=0, -1.0, -2.0, -4.0, -8.0 (I_{c2})

PLATE VOLTS: 0, 100, 200, 300

PLATE (I_b) OR GRID-№2 (I_{c2}) MILLIAMPERES: 100, 80, 60, 40, 20, 0

JAN. 24, 1955 TUBE DIVISION 92CM-8507

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY





12CA5

OPERATION CHARACTERISTICS

Ef=12.6 VOLTS PLATE VOLTS=125 GRID-No2 VOLTS=125
GRID-No1 VOLTS=-4.5 SIGNAL VOLTS(RMS)=3.2

PLATE CURRENT

POWER OUTPUT

TOTAL DISTORTION

GRID-No2 CURRENT

POWER OUTPUT–WATTS: 0.5, 1.0, 1.5

TOTAL HARMONIC DISTORTION–PER CENT: 5, 10, 15

MAXIMUM-SIGNAL PLATE OR GRID-No 2 MILLIAMPERES: 10, 20, 30, 40, 50

1000 3000 5000 7000

LOAD RESISTANCE–OHMS